



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,277	11/17/2003	Peter J. Hopper	P05732	6043
7590	07/07/2005		EXAMINER	
Jürgen Vollrath 588 Sutter Street # 531 San Francisco, CA 94102			PRENTY, MARK V	
			ART UNIT	PAPER NUMBER

2822

DATE MAILED: 07/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6m

Office Action Summary	Application No. 10/716,277	Applicant(s) HOPPER ET AL	
	Examiner MARK V. PRENTY	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-7 and 10-15 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 6,7 and 10-15 is/are allowed.
 6) ☒ Claim(s) 5 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This Office Action is in response to the amendment filed on June 20, 2005.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over newly cited United States Patent 6,621,123 to Nakabayashi et al. (Nakabayashi) together with newly cited United States Patent 6,830,980 to Mansoori et al. (Mansoori).

With respect to claim 5, Nakabayashi discloses (see the entire patent, including the Figs. 1-6 disclosure, for example) a MOS transistor with reduced drain capacitance comprising a drain 13c, and a lateral isolation trench 11a extending at least partially underneath the drain, wherein the trench is filled with deposited silicon oxide 12a (see column 7, lines 34-45).

The difference between claim 5 and Nakabayashi is claim 5's silicon oxide is formed by PETEOS (i.e., plasma enhanced deposition of tetraethylorthosilicate (TEOS) and oxygen) while Nakabayashi does not specify how its silicon oxide 12a is deposited.

Mansoori teaches that isolation-trench-filling silicon oxide is conventionally formed by PETEOS, for example (see the paragraph bridging columns 6 and 7).

It would have been obvious to one skilled in this art to form Nakabayashi's isolation-trench-filling silicon oxide 12a by PETEOS because Mansoori teaches that isolation-trench-filling silicon oxide is conventionally formed by PETEOS.


Claim 5 is thus rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi together with Mansoori.

Claims 6, 7 and 10-15 are allowable over the prior art of record.

United States Patent 4,523,213 is relevant to this application.

Art Unit: 2822

Registered practitioners can telephone the examiner at (571) 272-1843. Any voicemail message left for the examiner must include the name and registration number of the registered practitioner calling, and the Application/Control (Serial) Number. Technology Center 2800's general telephone number is (571) 272-2800.


Mark V. Prenty
Primary Examiner